ORDER [redacted] SUPPLIES OR SERVICES

PAGE 1 OF 11 PAGES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER: 06/11/2014	2. CONTRACT NO. (If any): EP-W-11-054
3. ORDER NO.: 0010	4. REQUISITION/REFERENCE NO.: PR-OAR-14-01040

5. ISSUING OFFICE (Address correspondence to):
HPOD
US Environmental Protection Agency
Headquarters Procurement Operations
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington DC 20460

6. SHIP TO:
a. NAME OF CONSIGNEE: OAR/OAP/CCD
b. STREET ADDRESS: US Environmental Protection Agency
1200 Pennsylvania Avenue NW
Mail Code: 62107J
OAP/CCD
c. CITY: Washington | d. STATE: DC | e. ZIP CODE: 20460

7. TO:
a. NAME OF CONTRACTOR: R T I International
b. COMPANY NAME:
c. STREET ADDRESS: PO BOX 12194
d. CITY: RESEARCH TRIANGLE PARK | e. STATE: NC | f. ZIP CODE: 277092194

f. SHIP VIA:

8. TYPE OF ORDER
☐ a. PURCHASE
REFERENCE YOUR:
Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.

☒ b. DELIVERY
Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA: See Schedule

10. REQUISITIONING OFFICE: OAR/OAP/CCD

11. BUSINESS CLASSIFICATION (Check appropriate box(es))
☐ a. SMALL ☒ b. OTHER THAN SMALL ☐ c. DISADVANTAGED ☐ d. WOMEN-OWNED ☐ e. HUBZone
☐ f. SERVICE-DISABLED VETERAN-OWNED ☐ g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM ☐ h. EDWOSB

12. F.O.B. POINT: Destination

13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	16. DISCOUNT TERMS
a. INSPECTION	b. ACCEPTANCE			
Destination	Destination			

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: (b)(4) The total estimated cost of the task order entitled, "Greenhouse Gas Reporting Program Data Quality Analysis and Verification Support" is $454,297.00 with a level of effort of 3,955 direct labor hours for the Continued ...					

18. SHIPPING POINT | 19. GROSS SHIPPING WEIGHT | 20. INVOICE NO.

17(h) TOTAL (Cont. pages): $454,297.00

21. MAIL INVOICE TO:
a. NAME: RTP Finance Center
b. STREET ADDRESS (or P.O. Box): US Environmental Protection Agency
RTP-Finance Center
Mail Drop D143-02
109 TW Alexander Drive
c. CITY: Durham | d. STATE: NC | e. ZIP CODE: 27711

SEE BILLING INSTRUCTIONS ON REVERSE

17(i) GRAND TOTAL: $454,297.00

22. UNITED STATES OF AMERICA BY (Signature): Faye Sas 6/11/2014

23. NAME (Typed): Faye Sas
TITLE: CONTRACTING/ORDERING OFFICER

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION NOT USABLE

OPTIONAL FORM 347 (Rev. 2/2012)
Prescribed by GSA/FAR 48 CFR 53.213(f)

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
06/11/2014	EP-W-11-054	0010

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	award of tasks 3, 4, and 5 with associated project management responsibilities and quick turn around support as follows: 1. Task (1): Project Management ((b)(4) hours). 2. Task (3): Develop and Implement Other Methods to Evaluate GHGRP Data Quality (b)(4) hours). 3. Task (4): Data Quality Reporting ((b)(4) hours). 4. Task (5): Optimize Verification Process ((b)(4) hours). 5. Task (6): Quick Turn Around/General Verification Support (b)(4) hours). This task order is fully funded through its completion date of 11 June 2015. Contractor incurred expenses shall not exceed the total obligated amount at $454,297.00. COR: Sean Hogan Alt COR: Michael Hannan TOPO: SEAN HOGAN Admin Office: HPOD US Environmental Protection Agency Headquarters Procurement Operations Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington DC 20460 Accounting Info: 14-15-B-58F7-101A46XQ3-2505-1458FC4719-001 BFY: 14 EFY: 15 Fund: B Budget Org: 58F7 Program (PRC): 101A46XQ3 Budget (BOC): 2505 DCN - Line ID: 1458FC4719-001 Period of Performance: 06/11/2014 to 06/11/2015					
0001	Recommendation to Award New Task Order under Requisition PR-OAR-14-00445 for Greenhouse Gas Reporting Program Data Quality Analysis and Verification Support to RTI. Contractor: RTI EP-W-11-054 Task 1, 3, 4, 5 & 6 Hours 3,955 at $454,297 Continued ...				454,297.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $454,297.00

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
06/11/2014	EP-W-11-054	0010

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	The obligated amount of award: $454,297.00. The total for this award is shown in box 17(i).					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) $0.00

STATEMENT OF WORK

Title: Greenhouse Gas Reporting Program Data Quality Analysis and Verification Support

Task Order Project Officer (TOPO):

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E-mail: Hannan.michael@epa.gov

Contracting Officer (CO):

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Email: jenson.christopher@epa.gov

I. BACKGROUND

In September 2009, EPA finalized the regulatory action that launched the EPA's Greenhouse Gas Reporting Program (GHGRP). Beginning in 2011, facilities that were subject to the GHGRP started reporting their GHG data to EPA using a web platform developed by EPA called the electronic GHG Reporting Tool ("e-GGRT") or by submitting a bulk XML file. Since then, reporters have completed three reporting cycles and the next round of reports are due in March 2014.

GHG data reported under the GHGRP are verified by EPA. Prior to EPA verification, reporters are required to self-certify that the data they submit to EPA is truthful, accurate and complete. EPA reviews the GHG data, including emissions data from direct emitters and supporting data

submitted from reporters, and verifies that they are complete, accurate, and meet the reporting requirements of this rule. EPA data verification ensures accuracy and completeness, such that EPA and the public are confident in using the data for developing climate policies and regulations. Data that are not entitled to confidential treatment are published on EPA's website (FLIGHT) for public analysis.

In implementing verification of GHGRP data, EPA has developed a three step process, described below.

1. **Automated Review of Data.** First, EPA conducts an initial centralized review of the data which is largely automated. The automated review consists of two components. The first component is built in e-GGRT and is designed to provide reporters with real-time feedback before they officially submit their data. The second component is a built in stand-alone software, referred to as the integrated verification program (iVP), which runs pre-programmed tests to more closely assess the completeness and accuracy of the data. Both e-GGRT and iVP generate output reports to summarize the verification findings and to flag possible errors and inaccuracies for follow-up.

2. **Staff Review of Data.** Second, subject matter experts (SMEs) review the output reports, following program-wide instructions on verification priorities and procedures, and notify reporters of any potential errors, discrepancies, or questions. The purpose of this step is for reporters to resubmit their annual reports with corrected data or for the SMEs to otherwise resolve the flags through analysis and communication with the reporters.

3. **On-Site Visits.** Third, EPA maintains the option to conduct on-site visits of selected facilities and suppliers, in the event centralized verification identifies issues which warrant site visits to resolve. The purpose of site visits would be to further evaluate reported data based on records that are kept at the facility but not submitted (e.g., GHG monitoring plans), as well as field methods to measure and QA/QC data. To date, EPA has not encountered a situation where an on-site visit is required.

Since reporting started in 2011, the number of checks used to evaluate annual reports has increased each year. In 2011, approximately 1,400 checks were used to evaluate annual reports for 28 subparts. In 2012, approximately 3,500 checks were used to evaluate annual reports for 41 subparts and in 2013; approximately 4,300 checks were used to evaluate annual reports for 41 subparts. This trend can be attributed to the addition of new subparts since 2011 (e.g., subpart W) and the addition of new reporting requirements for RY2013 (e.g., equation inputs). Also, there has been a general trend of adding new checks each year when verification plans are updated.

While the large number of checks used to evaluate annual reports ensures that the annual GHG reports are thoroughly reviewed, these checks generate a lot of data each year that must be reviewed and analyzed as part of the EPA verification process. One purpose of this task order is to define and evaluate the degree to which data quality is improved with the existing checks and verification process and identify opportunities to optimize the verification system.

In addition, there is ongoing interest in evaluating the overall quality of data collected by the GHGRP. To this end, this task order is also seeking support to evaluate and characterize the quality of GHGRP data by analyzing the data collected to date and by comparing the data with other relevant data sets. In particular, EPA is interested in comparing GHGRP data with GHG data collecting through the California Air Resources Board (CARB) reporting program.

Finally, EPA is interested in adding verification information to the annual publication of GHGRP data on FLIGHT. Options that are being considered include adding a symbol to facility profiles indicating the data has been verified, along with a definition of what this represents. Other options include developing an annual verification summary that will accompany the data that is published annually. For example, this summary would provide a summary of verification performed on the published data and any other factors considered when evaluating data quality. To this end, this task order is seeking support to develop and implement approaches to publish verification/data quality information for each reporting year.

II. SCOPE

The work outlined under this requirement is consistent with Section 1.2.5 of the Contract Statement of Work.

III. TASKS AND DELIVERABLES

Task 1: Project Management

The Contractor shall provide project management under this task, and shall submit a Monthly Status Report to EPA's TOPO in accordance with the Project Reporting schedule below. During the Period of Performance (POP), the Contractor shall immediately inform the TOPO and CO by telephone and/or email of any problems that may impede performance along with any corrective action needed by the EPA or the Contractor to solve the problem.

Under this task, the Contractor shall also attend a kick-off meeting, either via conference call or in person, whichever is most cost-effective to the U.S. Government, to discuss the goals and strategy for completing the deliverables. This kick-off meeting swill serve as a brainstorming session to clarify the tasks, provide any necessary background material, solicit ideas and feedback from the Contractor, as well as formulate ideas for work to be completed by the Contractor under the Tasks listed below. The contractor shall develop a project timeline based on the statement of work and direction from the TOPO that incorporates the deliverable dates for all tasks. The Contractor, under this task, shall also attend a wrap-up meeting at the end of the POP to discuss work completed under the Tasks.

Deliverables and schedule under Task 1:

Task 1.1	Attend kick-off meeting	Within 1 week of approval of this Task Order
Task 1.2	Project Timeline	Within 2 weeks of approval of this Task Order
Task 1.3	Monthly Status Report	By 10th business day each month
Task 1.4	Attend End of POP meeting	At least 2 weeks prior to end of POP, per TOPO direction

Task 2: Comparative Analysis of the GHGRP Verification Program and the California Air Resources Board Mandatory Reporting Rule Verification Program

The California Air Resources Board (CARB) and EPA have implemented different approaches to verify GHG data collected under the different reporting programs. EPA's program requires self-certification followed by EPA verification of annual reports and CARB's program requires self-certification and third-party verification of annual reports. The purpose of this task is to perform a detailed comparison of the two programs. The objectives of this analysis include:

- Identifying the source categories reporting to both programs which can be compared (i.e., source categories sharing common facility definitions and reporting methodologies).
- Delineating the similarities and differences in how data are verified and the relative strengths and weaknesses of the different verification programs.
- Where weaknesses are identified in EPA's program, defining and evaluating the significance of these weaknesses in terms of data quality at the program-wide and subpart-specific level.
- Developing recommendations to address any weaknesses associated with GHGRP verification program which are found to be potentially significant.

This task should mainly focus on data collected for RY2011 and RY2012. The outcome of this effort will be a report summarizing the objectives, approach, findings, and recommendations of this effort.

Deliverables and schedule under Task 2:

Task 2.1	Draft Outline and Approach for Comparative Analysis	Within 2 weeks of approval of this Task Order
Task 2.2	Final Outline and Approach for Comparative Analysis	Within 1 week of receiving EPA comments on Draft Outline and Approach
Task 2.3	Draft Comparative Analysis Report	Within 6 weeks of finalizing the Outline and Approach
Task 2.4	Final Comparative Analysis Report	Within 2 weeks of receiving EPA comments on Draft Report

Task 3: Develop and Implement Other Methods to Evaluate GHGRP Data Quality

The purpose of this task is similar to Task 2, but broader in scope. The purpose of this task is to monitor and evaluate the quality of GHGRP data using methods that enable EPA to evaluate the effectiveness of the verification program and the overall quality of GHGRP data. Other methods could include comparing GHGRP data with other datasets and applying statistical methods to analyze the data collected to date. The goal of this task is to develop a suite of methods that could be used together or separately to monitor and evaluate the verification program and the quality of GHGRP data.

The objectives and desired outcomes of this task are as follows:

- Identify other data sets that can be used to evaluate the quality of GHGRP data and propose methods by which these datasets can be used for this purpose on an ongoing basis. The goal is to identify a limited number of datasets which can be matched with GHGRP data and would provide a meaningful evaluation of data quality. In addition, the

contractor shall propose methods, by which these datasets can be used to define, evaluate and describe the quality of GHGRP data.

- Identify other methods by which the quality of GHGRP data and the verification program can be evaluated. This can include, but is not limited to, applying statistical methods to the data collected to date in order to identify specific trends and correlations that can be used for this purpose. Also, the contractor shall define how the results of these methods can be used to define, evaluate and describe data quality.

Deliverables and Schedule under Task 3:

Task 3.1	Identify and propose data sets to evaluate GHGRP data quality	Within 6 weeks of approval of this Task Order
Task 3.2	Identify and propose other methods to evaluate GHGRP data quality and the verification program	Within 6 weeks of approval of this Task Order

Task 4: Data Quality Reporting

The purpose of this task is to develop an annual report to communicate the results of verification and any other analyses used to evaluate GHGRP data quality. This will fulfill the reporting requirement described in EPA's Quality Assurance Project Plan (QAPP) for the GHGRP (March 11, 2013), which states that EPA will develop an annual report after each reporting year to summarize the data quality for each industry sector. This will be an internal report that can be used by others who want to consider using GHGRP data for different applications. In addition, this report will define the steps that must be followed and the requirements that must be met in order for an annual GHG report to be deemed as "verified".

In addition to developing an internal report, EPA is interested in developing an approach to publicly communicate data quality for a given reporting year. The goal of this effort is to increase confidence in the data as well as to provide an added incentive for reporters to ensure their annual reports are verified. To this end, EPA is seeking contractor support to develop and evaluate different approaches to convey data quality in FLIGHT. Potential examples include adding a symbol which indicates whether GHG data were verified and/or posting a summary of verification results.

To support this task, the contractor shall develop an outline for the internal data quality report described above. Once EPA has approved the outline for this report, the contractor shall produce a report for RY2012 which will also serve as the model for reports that will be produced for 2013 and annually thereafter. With respect to EPA's interest in adding data quality information to FLIGHT, the contractor shall develop and evaluate alternative approaches to meet this goal. This will be an iterative effort where the contractor shall meet with EPA to further define the goals and parameters of this effort and, based on this, develop and evaluate a range of options and recommendations.

Deliverables and Schedule under Task 4.

Task 4.1	Develop draft outline for annual verification/data quality report	Within 3 weeks of approval of this Task Order
	Develop final outline for annual verification/data quality report	Within 2 weeks of receiving comments from EPA on the draft outline
	Develop draft report for RY2012	Within 6 weeks of receiving EPA's final approval on the report outline
	Develop final report for RY2012	Within 2 weeks of receiving EPA's comments on the draft RY2012 report
Task 4.2	Draft proposal and recommendations to add data quality/verification information to FLIGHT	Within 4 weeks of approval of this Task Order
	Final proposal and recommendations to add data quality/verification information to FLIGHT	Within 4 weeks of receiving EPA comments on the draft proposal.

Task 5: Optimize Verification Process

EPA has successfully verified three years of data collected through the GHGRP and, in the process, gained valuable experience and data which can be used toward further optimizing the verification program. To this end, the purpose of this task is for the contractor to evaluate and develop approaches to optimize the existing verification program. While Tasks 2 and 3 are aimed at developing approaches to evaluate and improve data quality, if needed, outside of the verification process, this task is aimed at developing approaches to improve the verification process.

The contractor shall perform a critical review of the existing GHGRP verification process with the following objectives:

- defining the data quality yielded by the existing verification program;
- identifying opportunities to improve data quality through the existing verification program; and

- Identifying ways to make the existing verification program more efficient while achieving equal or better data quality.

The outcome of this effort will be recommendations to improve the existing verification process.

Deliverables and schedule under Task 4:

Task 5.1	Work plan and schedule	Within 2 weeks of TO approval
Task 5.2	Summary of recommendations and proposals to improve the existing verification process and/or systems	Within 8 weeks of approval of this Task Order

Task 6: Quick Turn Around / General Verification Support

Under this task, the Contractor shall provide expert support to the TOPO and respond to requests related to verification and compliance tracking for presentation materials, meetings/workshops/ training or other communication materials, conferences, technical briefings, or other analyses, often on a quick turn-around basis. The contractor shall also provide general verification support as directed by the TOPO, such as reviewing other verification protocols or other relevant documents, or developing outreach materials related to verification. This task has been provided in recognition of the significant amount of work associated with developing a verification process in a short time period and that unforeseen issues may arise.

Deliverables and Schedule under Task 5.

Task 6.1	No work should be undertaken or travel initiated under this Task until a technical directive TD has been issued by the TOPO.	Due dates will be determined in the TD.

IV. DELIVERABLE DISTRIBUTION

All deliverables shall be submitted to the TOPO at 1310 L Street, NW Washington, D.C. or submitted electronically. Deliverables shall be labeled with the contract number, task order number, and deliverable number. The Contractor shall provide the TOPO with at least one electronic copy of each deliverable.

V. PERIOD OF PERFORMANCE

The period of performance will extend one year from the effective date of this Task Order.